Litepower 400W

ATX 12V 2.0 Version

Power Supply

User's Manual >>

Thermaltake Litepower 400W Power Supply

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Thermaltake Litepower Power Supply

1. Introduction

We live up to the promise of Thermaltake logo in our unending quest for excellence.
Shall you have any suggestion or comments, please access our web site :
http://www.thermaltake.com
or e-mail to :
thermaltake@thermaltake.com

we appreciate your kindly feedback and you will receive the prompt response from our customer service team.

Thank you for choosing a quality Thermaltake Litepower 400W PC Power Supply. We trust that you will find it providing you with many years of service.

You can always find a Thermaltake Litepower 400W PC Power Supply that is suitable for all of your modern PC power needs.

Please take the time in familiarize yourself with the power supply, its connectors and the contents of this manual before proceeding with the installation of the power unit. You will need a Phillips crosshead screwdriver, perhaps your PC case manual and most certainly your motherboard manual.

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2. Components Check

1 **Litepower 400W power supply unit**

7 **One AC Input power cord**

7 **4 mounting screws**

7 **User manual**

3 Installation

3.1 Warnings and Cautions

3.1.1 Do not pull the AC power cord when the power supply is in use or else damage to components will result.

3.1.2 Do not store the Power Supply in a high humidity and high temperature environment.

3.1.3 When using Litepower 400W power supply under testing conditions where the power supply unit is not installed in a PC with its components, please follow the steps below:
1)Please take a paper clip and untwist it.
2)Make sure the power supply unit is in the "OFF" position.
3)Locate the 20 or 24 pin motherboard connector from the power supply unit.
4)Plug one side of the paper clip into the green wire hole.
5)Plug the other side of the paper clip into any of the black wire holes.
6)Turn on the PSU to see if the power supply fans turn on.

3.1.4 High voltages exist in the power supply. Do not open the power supply case unless you are an authorized service technician or electrician.

3.1.5 All warrantees and guarantees shall be voided should there be a failure to comply with any of the warnings and cautions covered in this manual.

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3.2 Installation Steps

To prevent electrical shocks, please disconnect the power cord from your existing power supply unit. Before you install your new Litepower 400W power supply, please check the red power supply voltage switch setting. You need to match your local power voltage(115V use for North America, Japan, etc., 230V use for Europe, South Africa, and other countries). If you don't use the proper voltage setting, you may damage your system and void the warranty. Litepower 400W PSU has voltage selector which can change to 115V/230V.

Installation Steps

3.2.1 Disconnect the power cord from your old power supply.

3.2.2 Follow your computer case manual and disassemble the case.

3.2.3 Disconnect all the power connectors from the motherboard and from the peripheral devices such as case fans, hard drives, floppy drives. etc.

3.2.4 Remove the existing power supply from your computer case and replace it with your new Thermaltake Litepower 400W PSU.

3.2.5 Connect the power connectors to the motherboard and peripheral devices (refer to the rest of this manual to match the various one-way key-locked connectors to the motherboard and accessories).

3.2.6 Connect the 6-pin PCI Express connector to PCI Express graphic card if you need.

Note: Please read the user manual supplied with your graphic card for detail usage instructions.

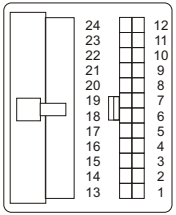
3.2.7 Close the computer case.

3.2.8 Make sure your power supply switch is on "OFF" position, and connect the supplied power cord to your Thermaltake PSU.

4. Product Specification

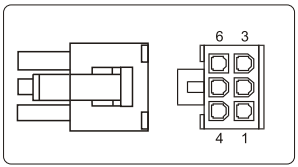
4.1 Output Specification

Main Power Connector



Voltage	Color			Color	Voltage
+3.3 V	Orange	1	13	Orange	+3.3 V
+3.3 V	Orange	2	14	Blue	-12 V
COM	Black	3	15	Black	COM
+5 V	Red	4	16	Green	PS_ON#
COM	Black	5	17	Black	COM
+5 V	Red	6	18	Black	COM
COM	Black	7	19	Black	COM
PWR_ON	Gray	8	20	N/C	N/C
+5 Vsb	Purple	9	21	Red	+5 V
+12 V	Yellow	10	22	Red	+5 V
+12 V	Yellow	11	23	Red	+5 V
+3.3 V	Orange	12	24	Black	COM

PCI Express connector (6pin)



Color	Signal	Pin
Yellow	12VDC	1
Yellow	12VDC	2
Yellow	12VDC	3
Black	COM	4
Black	COM	5
Black	COM	6

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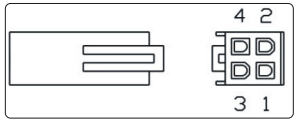
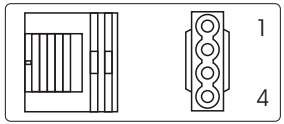
+12V connector(4 pin)



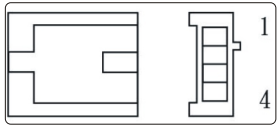
Color	Signal	Pin
Black	COM	1
Black	COM	2
Yellow	12VDC	3
Yellow	12VDC	4

Peripheral connector (4 pin)



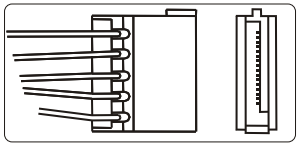
Color	Signal	Pin
Yellow	+12VDC	1
Black	COM	2
Black	COM	3
Red	+5VDC	4

Floppy disk connector (4pin)



Color	Signal	Pin
Red	+5VDC	1
Black	COM	2
Black	COM	3
Yellow	+12VDC	4

Serial ATA Power Connector



Color	Signal	Pin
Yellow	+12VDC	1
Black	COM	2
Red	+5VDC	3
Black	COM	4
Orange	+3.3VDC	5

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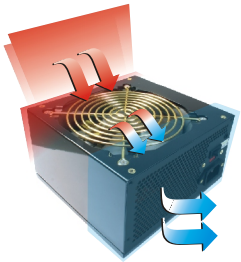
4.2 Litepower 400W PSU Specification

Features:

- Intel ATX 12V 2.0 Compatible.
- 6-pin PCI-E connector included to support high-end graphic card.
- Dual +12V output circuit provides steady output for system.
- Super quiet and stable 12cm sleeve bearing fan.
- Build-in Over Current Protection, Over Voltage protection, and Short-Circuit protection.
- Safety : UL, CUL, CE, NEMKO, TUV+CB, BSMI, FCC certification.

SPECIFICATION		
P/N	W0161	W0162
Maximum Power	400 Watts	
Color	Silver	
Switches	ATX Logic on-offadditional power rocker switch	
PFC (Power Factor Correction)	*PFC*	*N/A*
Cooling System	One 12cm Fan: SPEED : 2400 RPM(+/-10%) DIMENSION : 120 x 120x 25 mm AIR FLOW: 77.5 CFM TEMP. AUTOCONTROL	
P. G. Signal	100-500 ms	
Over Voltage Protection Recycle AC to Reset	+5V output: 7.0 Vmax +3.3V output: 4.5 Vmax +12V output: 15.6 Vmax	
DIMENSIONS		
Unit Size	14cm(L)x15cm(W)x8.6cm(H)	
Net Weight	1.32 kg	1.30 kg
INPUT		
Input Voltage	115 VAC / 230 VAC	
Input Frequency Range	50 / 60 Hz	
Input Current	10.0A / 5.0A	
Hold-up Time	10ms(minimum) at Full Load	

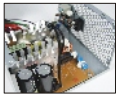


12cm Fan Design - Optimum Air flow and Lowe Noise

➤ Technology Features

12 cm Fan - High thermal performance

6-pin PCI-Express Connector


Dual +12V Rails

➤ Total Output Connector

20+4-pin Main Connector

4-pin +12V Power Connector

4-pin Peripheral Power Connector

4-pin Floppy Drive Connector

5-pin SATA Connector

6-pin PCI Express Connector

OUTPUT						
	+5 V	+3.3 V	+12 V 1	+12 V 2	-12 V	+5 VSB
Max. Load	25 A	18 A	14 A	16 A	0.3 A	2.5 A
Min. Load	0.5 A	0.3 A	1.0 A	1.0 A	0.0 A	0.1 A
Peak load	--	--	16 A	18 A	--	3.5 A
Load Reg.	+5% ~ -5%	+5% ~ -5%	+5% ~ -5%	+5% ~ -5%	+10% ~ -10%	+5% ~ -5%
Ripple V(p-p)	70 mV	70 mV	150 mV	150 mV	200 mV	70 mV

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4.3 Other Specification

4.3.1 Inrush Current:
No damage at 25°C cold start.

4.3.2 Power Efficiency:
65% (min.) at full load, 115Vac and 230Vac input.

4.3.3 Note:
+5V & +3.3V output can't exceed 130W
+5V, +3.3V, +12V1 & +12V2 output can't exceed 335W
Total combine current on +12V1 & +12V2 rails are 19A Max
Output power peak at 400W, rated at 350W
Add 0.1uF and 10uF capacitors across output terminal during ripple & noise test.

4.3.4 Hold-Up Time:
10ms (minimum) at 80% of full load, at 230AC input.

4.3.5 Power Good Delay:
100-500 msec.

4.3.6 Power Fail Delay:
>1 msec.

4.3.7 Turn-On Delay Time:
1000 msec max.

4.3.8 Rise Time:
20ms max at full load.

4.3.9 MTBF at 25°C (demonstrated)
100KHrs minimum

4.4 Protection:

If the power supply protection (OCP, OVP, or Short Protection) latches off all main outputs, reset the PSU by cycling remote on/off control or AC power.

4.4.1 Over Current Protection
Not over 240VA for every output voltage

4.4.2 Over Voltage Protection
+3.3V output : 4.5 Vmax
+5.0V output : 7.0 Vmax
+12.0V output : 15.6 Vmax

4.4.3 Short Protection
All output to GND.

4.5 Environment:

4.5.1 Operating Temp. +10°C to +50°C
4.5.2 Storage Temp. -20°C to +60°C
4.5.3 Operating Humidity 5% to 85%, non-condensing
4.5.4 Storage Humidity 5% to 95%, non-condensing
4.5.5 Operating Altitude 0 to 10,000 feet
4.5.6 Storage Altitude 0 to 50,000 feet

4.6 Hi-Pot: (Input/Output isolation)

4.6.1 Primary to Secondary
3535Vdc for 1 minute

4.6.2 Insulation Resistance
Primary to earth ground 500Vdc, 50M ohms Min.

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4.7 EMI & Safety

4.7.1 Conducted EMI
1. Meet FCC: Class B
2. Meet CISPR 22: Class B

4.7.2 Safety Standards
1. Meet UL/CUL
2. Meet TUV
3. Meet CB
4. Meet CE
5. Meet BSMI, FIMKO, SEMKO, DEMKO

Note: The power supply needs to be coupled with PC system for operation.

5. Trouble Shooting

Condition 1: No DC output. The fan or fans are motionless
Check:
1-1 Is the AC inlet plug firmly plugged into the PSU inlet socket?
1-2 Is the wall socket, extension power cord, power strip or surge protector in use, fully functional and wall power switch turned 'ON'?
1-3 Is the Main Board socket (20+4pin) plug fully and firmly inserted?

Condition 2: The fan or fans began rotating and then stopped. The system hangs without proceeding any further.
Check:
2-1 Are the peripheral connectors firmly plugged into accessory devices, such as the main hard drive, CD ROM , etc?
2-2 If a plug has been inadvertently connected in an off-set or reversed position, unplug the AC power source, reconnect the offending connectors and then wait for 30 seconds before replug in the AC power source and try again.

Note:
If the power supply is still unable to power up after following the above instruction, please send the unit back to your dealer or retailer for after sales service.

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Should you have any questions regarding the aforementioned steps, please contact Thermaltake directly. Failure to follow the proper procedures may cause severe bodily harm or PC component damage.

For Support or General Inquiries, please contact us at:

❶ Thermaltake Technology USA
Toll Free: (800)988-1088
Email: support-usa@thermaltake.com

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NOTE:

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